

ABSTRACT

A method for increasing cellular system capacity includes receiving a signal in a time slot and a frequency band and transmitting a signal in the same time slot and the same frequency band. An adaptive self-interference canceller is used to reduce the radio frequency self-interference created by receiving and transmitting signals in the same time slot and the same frequency band. The self-interference can be further reduced by using: (1) a circulator connected between an antenna, a receiver, and a transmitter; (2) separate antennas for receiving and transmitting signals can be used; and/or (3) an adaptive antenna.